

WHAT IS CLAIMED IS:

1. A disc harrow comprising:

a) a rectangular frame;

b) a plurality of tool bars attached to said frame;

c) a plurality of discs attached to at least one of said tool bars in a manner wherein each of said discs is independently mounted in a staggered manner and wherein the angulations of said discs are fixed and not uniformly spaced;

d) a plurality of vertical breaker bars attached to at least one of said tool bars located aft of said discs;

e) a plurality of hydraulically retractable wheels attached to at least one of said tool bars; and

f) a towing means attached to said frame.

2. The disc harrow according to claim 1 wherein said plurality of discs is arranged in a row perpendicular to the direction of tow having at least two groups with adjacent groups facing outwardly in opposite directions from the center of said frame, each said group having a plurality of descending diameter discs at each end of each group, the major diameter of each disc being located on the same plane.

3. The disc harrow according to claim 2 wherein said descending diameter discs have escalating angulations and decreasing spacing between discs.

4. The disc harrow according to claim **1** wherein said discs further comprise a mounting bracket, a vertical leg, and a rotating means.

5. The disc harrow according to claim **4** wherein said stagger is achieved by adding a spacer to
5 said mounting bracket.

6. The disc harrow according to claim **1** wherein said discs are non-rotatable arcs having a radius of about half the diameter of a rotatable disc.

10 **7.** The disc harrow according to claim **1** wherein said plurality of vertical breaker bars is staggered.

8. The disc harrow according to claim **7** wherein said breaker bars further comprise plow points.

15 **9.** The disc harrow according to claim **1** wherein said disc harrow further comprises a leveler attached to said frame.

10. The disc harrow according to claim **9** wherein said leveler comprises:

20 a) a vertically pivoting frame; and

b) a plurality of right angle-shaped bars located parallel to and supported by said vertically pivoting frame arranged at acute angles in a herringbone pattern.

5 **11.** The disc harrow according to claim **1** wherein said disc harrow further comprises a smoothing plate attached to said frame.

12. The disc harrow according to claim **11** wherein said smoothing plate further comprises:

a) a support frame located aft of and attachable to said disc harrow;

10 b) a pivotal biased plate having one edge in contact with soil being disturbed by said disc harrow extending longitudinally across said rectangular frame.

13. The disc harrow according to claim **1** wherein said disc harrow comprises duplicate disc harrows attached to each side.

15 **14.** The disc harrow according to claim **13** wherein said duplicated disc harrows are hydraulically pivotal for transport.

20 **15.** A disc harrow of the towable type having retractable wheels and utilizing a rectangular horizontal frame having at least one tool bar attached thereto to which a plurality of independently mounted disc assemblies are attached in a row located perpendicular to the direction of tow and at least one tool bar having a plurality of vertical breaker bars

attached thereto located aft of said independently mounted disc assemblies, the disc assemblies centrally divided into two groups with one group having a fixed angled in one direction and the second group fixed at the opposite angle in a manner typical within the art, the disc harrow further comprising a means for fixedly offsetting every other disc assembly thereby staggering the row of discs, each group of discs further comprising a plurality of descending diameter discs located at each end of each group with angulations becoming greater as disc diameters decrease while the spacing between the discs becomes smaller.

16. The disc harrow according to claim **15** further comprising a tool bar having staggered vertical breaker bars.

17. The disc harrow according to claim **16** further comprising a leveler having a plurality of right angle bars arranged at acute angles to each other in a herringbone pattern.

18. The disc harrow according to claim **17** further comprising a biased smoothing plate.

19. The disc harrow according to claim **15** further comprising non-rotating discs.

20. The disc harrow according to claim **15** wherein the major diameters of each said disc are aligned to the same plane.

